

REMARKS

The claims remaining in the present application are Claims 37-52 and 71-79. Claims 37, 45, 49, 71 and 75 have been amended. No new matter has been added as a result of these claim amendments.

CLAIM REJECTIONS

35 U.S.C. §103

Claims 37-52 and 71-79 are rejected under 35 U.S.C. §103(a) as being unpatentable over Sager et al., U.S. Patent No. 5,519,841 (hereinafter, Sager) in view of Konigsburg et al., U.S. Patent No. 5,931,957 (hereinafter, Konigsburg). The rejection is respectfully traversed, for the following reasons.

Independent Claim 37 recites:

A method of scheduling and executing instructions comprising:

a) accessing a sequence of instructions comprising:

a first memory operation that involves a first address range;
a second memory operation that involves at least a portion of said first address range; and

a third memory operation intervening said first and second memory operations, wherein it is not known whether said third memory operation involves an address within said first address range, wherein at least one of said first through third memory operations comprises a store operation;

b) eliminating said second memory operation from said sequence of instructions;

c) executing said sequence of instructions with said second memory operation eliminated; and

d) determining, during said execution, if said first store instruction stores to an address within said first address range, and if so, raising an exception and re-executing said sequence of instructions including said second store instruction (emphasis added).

Claim 37 recites that the sequence of instructions are executed with the second instruction eliminated. Thus, first and third memory operation are executed and the second memory operation is not executed in step c). Applicants note that this means that an instruction after the eliminated instruction is executed. Claim 37 further recites that an exception is raised and the sequence of instructions are re-executed including the second store instruction in the event that the first store instruction stores to an address within the first address range. Applicants note that the implication of this is that if no exception is raised that the executing of the sequence of instructions with said second memory operation eliminated is allowed to stand.

Sager and Konigsburg are concerned with re-ordering of instructions, as opposed to the claimed eliminating an instruction (Sager, Abstract; Konigsburg, Abstract). Applicants have claimed that the sequence of instructions is executed without said second store instruction (which was eliminated). Konigsburg may teach that if the re-ordering of instructions causes (or will cause) an improper memory access, then one or more instructions may be aborted (e.g., flushed). However, this is the case for an improper sequence of instruction execution and does not teach or suggest the limitations executing said sequence of instructions with said second memory operation eliminated. For example, after flushing the instructions Konigsburg needs to re-execute the instructions.

Further, Applicants have claimed in step c) that an instruction after the eliminated instruction is executed. For example, the limitations of Claim 37 describe that the eliminated second store instructions intervenes two other instructions, both of which are executed. Konigsburg's teaching of flushing instructions is inconsistent with the claimed limitations in that Konigsburg teaches that all instructions subsequent to the instruction for which an improper memory operation is detected are flushed (Konigsburg col. 3, lines 11-14, 24-27, and 35-38. Therefore, Konigsburg's teaching of flushing cannot result in the claimed limitations in that does not result in executing an instruction after an eliminated instruction. Moreover, this means that Konigsburg's teaching cannot be combined with Sagar to arrive at the limitations of Claim 37.

Applicants respectfully assert that neither Sager nor Konigsburg, alone or in combination, teach or suggest the limitations of Claim 37.

Independent Claims 45, 49, 71 and 75 comprises similar limitations to those discussed in the response to Claim 37. For at least the reasons discussed in the response to Claim 37, Claims 45, 49, 71 and 75 are believed to be allowable.

Dependent Claims 38-44, 46-48, 50-52, 72-74, and 76-79 depend from Independent Claims 37, 45, 49, 71, and 75, which are believed to be allowable

for the foregoing reasons. Therefore, dependent Claims 3838-44, 46-48, 50-52, 72-74, and 76-79 are believed to be allowable.

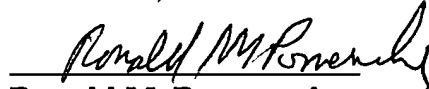
CONCLUSION

It is respectfully submitted that Claims 37-52 and 71-79 are neither taught nor suggested by the cited references and, therefore, allowance of Claims 37-52 and 71-79 is earnestly solicited.

Should the Examiner have a question regarding the instant amendment and response, the Applicants invite the Examiner to contact the Applicants' undersigned representative at the below listed telephone number.

Dated: 8/5, 2004

Respectfully submitted,
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